

## **WHY WE'RE STUDYING THE WATERSHED:**

### **Why We Studied the Bristol Bay Watershed**

EPA conducted a scientific assessment of the Bristol Bay watershed to understand how large-scale mining could potentially affect water quality and salmon ecosystems in the Bristol Bay watershed - home to one of the largest salmon populations in the world and an area with significant mineral resources.

We launched the study in response to petitions from federally-recognized tribes and others who wrote to EPA with concerns about how large-scale mining could impact Bristol Bay fisheries. Other tribes and stakeholders requested that EPA wait for mining permit applications to determine the potential environmental impacts of mining. The assessment provides a better understanding of the Bristol Bay Watershed and will inform consideration of development in the area.

The Bristol Bay watershed is composed of nine major rivers. Our assessment focuses primarily on the Kvichak and Nushagak river drainages, the main areas in the watershed open to large-scale resource development.

### **What did we learn?**

#### **Health of salmon and ecological resources**

We characterized the current health and conditions of Bristol Bay salmon populations and salmon habitat in the Kvichak and Nushagak watersheds. We also described the general conditions of ecological resources in Bristol Bay, including 35 fish species, 190 bird species, and more than 40 terrestrial animal species.

#### **Potential impacts of mining**

We described the potential impacts of large-scale porphyry copper, gold and molybdenum mining in the Bristol Bay Watershed. Using publicly available mining plans for Bristol Bay and existing information on mining, we used plausible mining scenarios to describe potential impacts of mining to salmon and salmon habitat. We investigated mining practices that could minimize risks to the Bristol Bay Watershed, and assessed the success and failure rates of these mitigation practices.

#### **Role of salmon in indigenous populations and economy**

We described the role of salmon in Alaska Native cultures present in the Nushagak and Kvichak watersheds. The Yup'ik and Dena'ina living in those watersheds are two of the last intact, sustainable, salmon-based cultures in the world. There are 31 Alaska Native Villages in Bristol Bay, and many residents depend on a salmon subsistence-based economy.

In addition, we examined the economic state of the greater Bristol Bay fisheries industry and the dependence of non-native populations on the salmon resource.

### **How was the assessment conducted?**

EPA compiled a team of scientists with expertise in fisheries biology, mining, geochemistry, anthropology and other disciplines to develop the draft Bristol Bay Watershed Assessment. These experts reviewed a range of existing information compiled by the State of Alaska, federal resource agencies, the mining company, tribes and scientific institutions from around the world. The sources include peer-reviewed research published in scientific journals, agency staff, tribal elders and input from other experts.

We submitted our findings for public comment and an independent scientific peer review process. The peer reviewers were scientists and experts not involved in the assessment. Both a draft and a revised draft of the assessment document were reviewed by the peer review experts and the public. We considered all comments and made changes in the revised draft and final assessments.

### **PEER REVIEW SECTION:**

#### **Replace existing text with following:**

The peer review process provided independent review of the Bristol Bay Assessment. Its purpose was to identify necessary improvements to the document prior to its being published as a final document.

EPA tasked Versar, an independent contractor, with conducting an external peer review of the May 2012 draft Bristol Bay Assessment. Versar assembled 12 independent experts, including specialists in the fields of mine engineering, salmon fisheries biology, aquatic ecology, aquatic toxicology, hydrology, wildlife ecology and Alaska Native cultures.

The peer reviewers evaluated the May 2012 draft assessment and provided a written review of the draft document. EPA considered this feedback as it revised the assessment.

In April 2013, the same 12 peer reviewers conducted a follow-on peer review to evaluate whether the April 2013 draft of the assessment was responsive to their original comments.

### **PUBLIC INVOLVEMENT SECTION:**

#### **Change “Current Public Involvement” to “Public Involvement.”**

##### **Insert following text:**

Stakeholder engagement was essential to ensure that EPA heard and understood the full range of perspectives on the assessment and the potential effects of mining in the Bristol Bay region.

- **Public and Stakeholder Meetings:** EPA visited many Bristol Bay communities, including Ekwok, Dillingham, Kokhanok, New Stuyahok, Koliganek, Iliamna, Newhalen, Nondalton, Naknek, King Salmon, Igiugig, and Levelock. EPA met with representatives from Bristol Bay tribal governments and corporations, as well as representing from the mine industry, commercial fishers, seafood processors, hunters and anglers, chefs and restaurant owners,

jewelry companies, conservation organizations, members of the faith community, and elected officials from Alaska and other states.

- **Intergovernmental Technical Team:** EPA met with an Intergovernmental Technical Team that provided input on the structure of the assessment and identified data sources. Participants included representatives from tribes, Alaska Department of Public Health, Alaska Department of Fish and Game, National Park Service, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, and Bureau of Land Management.
- **Tribal consultation:** EPA's policy is to consult on a government-to-government basis with federally recognized tribal governments when EPA actions and decisions may affect tribal interests. Out of the 31-federally recognized tribes EPA invited to engage in tribal consultation, 20 tribes participated.
- **ANCSA Engagement:** EPA engaged with Alaska Native Claims Settlement Act Village and Regional Corporations throughout the assessment. EPA representatives traveled to Alaska to share information and receive input on the assessment. ANCSA Corporations met with EPA officials in Anchorage, Seattle, and Washington, DC.
- **Public comments:** EPA released two drafts of the assessment for public comment. Approximately 230,000 and 896,000 comments were submitted to the USEPA docket during the 60-day public comment period for the May 2012 and April 2013 drafts of the assessment, respectively. EPA held eight public comment meetings in June 2012, in Dillingham, Naknek, New Stuyahok, Nondalton, Levelock, Igiugig, Anchorage, and Seattle. Approximately 2,000 people attended these meetings.

In addition, the public was invited to nominate qualified scientists as potential peer reviewers and to provide oral comments and observe discussion among the selected peer reviewers during a meeting in August 2012.

All comments can be accessed online. View public comments at [regulations.gov](http://www.regulations.gov).

EPA has provided responses to both peer review and public comments. These responses can be accessed online

## **Fact Sheets**

- Bristol Bay Assessment Fact Sheet - April 2013

## **TRIBAL ENGAGEMENT SECTION:**

With 229 federally-recognized tribal governments in Alaska, 19 distinct language areas, and six distinct cultural regions, Alaska Native tribes are a significant presence in the state. Their connection to the land and dependence on it are factors we regularly consider when working on environmental issues in Alaska.

There are 31 federally-recognized tribal governments in the Bristol Bay area, 13 of which are in the Kvichak and Nushagak watersheds. The salmon runs of Bristol Bay serve as a major

subsistence food source and provide many native residents with income. They also are the basis for Alaska Native culture, social relations, and spirituality.

### **Bristol Bay tribes petition EPA**

EPA launched the Bristol Bay Watershed Assessment in response to petitions from federally-recognized tribes and others who wrote to EPA with concerns about how large-scale mining could impact Bristol Bay fisheries. Other tribes and stakeholders requested that EPA wait for mining permit applications to determine the potential environmental impacts of mining. The assessment will provide a better understanding of the Bristol Bay Watershed and will inform consideration of development in the area.

In May 2012, EPA held public meetings in Bristol Bay villages to hear directly from Alaska native residents. Tribal input was a vital component of the assessment.

### **The role of traditional knowledge**

Tribes have special knowledge of the Bristol Bay watershed because they have lived there for thousands of years. This is referred to as *traditional knowledge*.

Two anthropologists with extensive experience in Alaska documented and included traditional knowledge in our watershed assessment. They interviewed 53 elders and culture bearers who were identified as authoritative sources of information about subsistence, traditional ecological knowledge, nutrition, social relations and spiritual aspects of their culture.

### **A government-to-government relationship**

EPA has an obligation to work with tribes on a *government-to-government* basis on decisions or activities that impact them. The concept of tribes as sovereign nations was written into the U.S. Constitution and has been affirmed by the courts, Congress and the President.

The tribal governments in Bristol Bay have an opportunity to engage the federal government on decisions impacting Bristol Bay resources in a process called tribal consultation.

EPA engaged tribes in official government-to-government meetings as part of the Bristol Bay watershed assessment. We held discussions and informational community meetings with tribal members, tribal village corporations and non-profit organizations.

Our engagement with tribes was a consistent thread in the assessment from start to finish. As year-round, lifelong residents, Alaska Native Villages have a great stake in Bristol Bay's future.